Shrimping Industry TED Workshop
Summary
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Introduction

Radical changes to turtle excluder devices (TEDs) were recently published in the *Federal Register*. The Gulf and South Atlantic Fisheries Foundation, Inc. coordinated a TED Workshop for the southeastern shrimping industry in Tampa, Florida on November 14-15, 2001. Members of the shrimping industry from North Carolina to Texas participated in this effort. This meeting served to provide the fishing industry with information concerning the new TED proposals and established a forum for the exchange of ideas and information among the various regional fishermen. Invited experts from state and federal agencies presented information regarding new TED regulations and recent research regarding sea turtle abundance and biology. The shrimping industry met as a group at the end of the workshop and formulated comments regarding the new TED proposals as well as suggestions for improving the recent public hearing process. Concerns were expressed regarding information and comments presented in the *Federal Register*. The workshop also enabled the development of recommendations that could provide a more efficient and effective future working relationship with the National Marine Fisheries Service (NMFS). The following summary indicates the principal concerns and recommendations formulated during the Foundation workshop.

Comments Regarding the Public Hearing Process

Throughout the workshop, industry participants expressed concern regarding the manner in which public hearings were conducted. Fishermen unanimously concurred that notification of upcoming hearings was very inadequate. Several industry participants indicated that many fishermen never received notice of the meetings and that the lead-time between publication of proposed rules and meetings for public input did not provide enough time for preparation. The short lead-time was characterized by the first public hearing conducted in Florida – only several days separated the time in which proposed changes were published and the public hearing. Several fishermen indicated that the only notification of public hearings that they had received were from the Foundation.

Participants at the workshop indicated a common theme regarding public input meetings – public input was not being taken seriously, thus many members of the shrimping industry were experiencing discouragement for the process.

All participants at the workshop expressed dissatisfaction regarding the very limited number of public hearings conducted throughout the Southeast Region. Many expressed that a complete lack of hearings in Mississippi and Alabama represented negligence by NMFS. Representatives from other states, particularly Louisiana and

Texas, stated that additional public input hearings would have been appropriate. It was noted that Louisiana had only one public hearing in New Orleans and that this was totally inadequate and presented a major problem for working fishermen located in distant parts of the state. Texas representatives echoed this problem.

It should be noted that participants in the meeting expressed tremendous concern regarding the short period established for written public comment. A meeting highlight was experienced when Dr. William Hogarth agreed to an extended period for comment – 90 days.

Industry Recommendations to the Public Hearing Process

The following recommendations summarize input from workshop participants regarding improvement of the public hearing process:

- Conduct appropriate numbers of public hearings in each state so that accessibility by fishermen can be efficiently achieved (More public input meetings regarding the proposed TED regulations were requested).
- Provide timely and adequate notification of public hearings.
- Provide sufficient response times to proposed rule changes so that industry has adequate time for investigation and response.
- Conduct public input meetings in certain areas to coincide with unfavorable lunar and tidal cycles that do not interfere with peak fishing periods.

Sea Turtle Conservation as it Relates to the Shrimping Industry

Considerable interaction and discussion regarding sea turtle conservation was conducted during the TED workshop. Invited guests gave presentations regarding conservation and in-depth discussion was executed among industry participants in a closed working session. A focal point that was repeatedly made during the workshop was that the proposed requirement of either a 71-inch TED or double-flap TED in all places and at all times throughout the Southeastern Region was not needed. Industry stressed the proposed regulations were directed toward unified enforcement and were not necessarily to protect sea turtles in all areas. Industry expressed these regulations represented an attempt to standardize TEDs throughout the Gulf and South Atlantic and would have little bearing on sea turtle conservation in many areas where large loggerhead or leatherback turtles did not exist. Fishermen often expressed that their local fishery was being indicted for the existence of sea turtles in another region of the fishery. A need was expressed to evaluate concentrations of large loggerhead and leatherback sea turtles on an area by area basis and make proper regulatory adjustments. A prime example of this was repeatedly reflected in questions about the need for larger TEDs in inshore waters of the Western and Central Gulf of Mexico.

Some inshore shrimping representatives from the Gulf of Mexico expressed genuine concern that they were currently being mandated to utilize TEDs in areas where no documentation of sea turtles exists. During the meeting, it was repeatedly stated that

our knowledge of temporal/spatial distribution of sea turtles in inshore waters in the Gulf of Mexico needed to be drastically improved. Some inshore shrimp fishermen believed that they were being unfairly mandated to use TEDs – not only the current designs, but also those proposed. It was repeatedly stressed that research regarding sea turtles in inshore waters was severely lacking to support TED usage.

Concerns for the population and health of loggerhead sea turtles give impetus for the proposed regulations. However, it was expressed during the workshop that the NMFS Sea Turtle Working Group has published professional reports indicating nesting assemblages of all loggerhead sea turtles have not shown a decline in over a decade. An alarming decline did exist in the 1970's, but since 1989 no decrease in the nesting population is indicated. The industry group strongly believed that this information represented the best available data and made the basis for new regulations less credible.

A common concern was expressed by fishermen from both the Gulf and the South Atlantic regarding sea turtle management and potential impacts of the shrimp fishery. This concern related to sea turtle strandings and the perceived correlation to the shrimping industry. A recent example of stranding information off South Carolina was used to exemplify confusion that can occur from this information. The shrimp fishery was recently closed off this state for a period of time. A comparison of strandings between this closure and the previous year when shrimping was allowed, showed almost the same number of sea turtles stranded on the beaches. This phenomenon received much discussion and resulted in suggestions to better improve understanding and enhanced data collection in the future. It was stressed that better data are needed regarding the reason for strandings of sea turtles. Documentation of causative factors such as disease and the contribution of mortality from all impacting influences needs better understanding and enhancement.

Fishermen from the Gulf of Mexico stressed that protection of nesting beaches should continue to receive emphasis. It was noted that long-term data now show the importance of beach protection. Analysis of nesting data from beaches in Mexico clearly shows a significant increase in nests prior to the implementation of TEDs, implying recovery was already well underway. It was strongly stated that efforts focusing upon nesting beach protection and patrol should continue to receive substantial financial support from government agencies.

The proposed requirement for TEDs that prescribe drastically larger escape openings reflects concerns for the incidental take of leatherback sea turtles in shrimp trawls. Industry expressed that these proposed rule changes reflected draconian measures and statistically insignificant testing data to support implementation of larger escape hole/flap sizes. Workshop participants offered suggestions to ameliorate concerns regarding this turtle species. Industry representatives at the workshop further indicated that nesting numbers of leatherback sea turtles have been known to experience cyclical fluctuations. Currently, numbers of leatherback turtles are recovering and are experiencing an upward trend. It was indicated that numbers are just as high as they were

20 years ago. Additional comments regarding industry recommendations are indicated in the industry recommendation segment of this discussion.

A number of discussions focused upon existing TEDs and modifications to better exclude larger, adult loggerhead sea turtles. Industry members from both the Gulf and South Atlantic indicated that determination of escape hole size was not related to the size of the rigid grid of the TED. Net makers and gear experts agreed that the size of the escape hole is determined by the webbing installed in the TED and not by the size of the grid. It was agreed that it is more practical to create a larger escape hole in the TED by modifying webbing surrounding it. This brought forward another point. The newly proposed regulations indicate that a minimum grid of 32" inside diameter measurement will be required. Industry members indicated that many grids now used in the shrimp fishery have an outside diameter measurement of 32". It was strongly expressed that this small difference would have negligible differences in the ability of the gear to exclude larger sea turtles. Importantly, the industry representatives at the workshop expressed that if larger holes were absolutely necessary in an area of the region, existing TEDs could be modified to exclude adult loggerhead sea turtles.

The contingency from the South Atlantic indicated that existing TEDs could be modified for escape openings with measurements of 35" by 20" which should easily exclude sea turtles in that area. Likewise, several fishermen from the Gulf of Mexico indicated that escape openings larger than the existing 32" by 10" holes could be modified. Fishermen from both areas strongly agreed that existing grids need not be changed or modified. Fishermen indicated that if problems existed with current TEDs, they were most likely associated with height of the TED openings and not so much with the width. Discussion focused upon the possibility that some larger adult loggerhead sea turtles may be too thick to pass through minimal vertical opening of the TEDs. Fishermen indicated that many are currently utilizing TEDs with vertical openings larger than the mandated minimum requirements.

Fishermen from Louisiana were very vocal regarding the expansion in popularity of the Coulan TED. Many local fishermen have begun utilizing this device with successful results. Besides being an effective and efficient excluder device, this TED has contributed significantly with reduction of finfish bycatch species. A strong argument was directed toward maintaining this TED as an acceptable device.

Industry members at the workshop indicated that reconsideration of soft TEDs should be instituted. It was expressed that several of the soft TEDs that were developed by industry were excellent excluders of sea turtles and were superior devices for finfish bycatch exclusion. Emphasis should be placed upon reexamination and certification of these devices.

In addition to modification of existing TEDs, discussions also focused upon other topics related to sea turtle conservation. It was discussed that the currently used TED testing protocol is more applicable to small sea turtles. This protocol which utilizes injected captive reared sea turtles in certification tests was blamed for potential problems being experienced with larger sea turtles. It was suggested in the workshop that an

additional TED testing protocol directed at capture of wild sea turtles in the South Atlantic be incorporated. It was stressed that the abundance of large sea turtles in the South Atlantic could be used in determining the effectiveness of turtle exclusion of various TEDs.

Industry Recommendations Regarding Sea Turtle Conservation

- There must be appropriate resources to conduct a comprehensive industry review of turtle information and perform analysis of massive data sets. This would include stock assessment evaluations and economic analysis. Review of existing information and attempts toward amelioration of contradictions will be performed. Scientists will be assembled to form a comprehensive and scientifically credible review and industry report. (Note that this effort has been formally requested and is being considered for funding.)
- Data from state resource agencies should be included in analysis of spatial/temporal distribution of sea turtles. Historic sampling data utilizing trawls, gill nets and seines exist for all states and these data can be used to determine the value of certain inshore bay systems for juvenile/adult sea turtles. These data, complimented with more intensive investigations, can indicate if the potential for TED exemptions for certain inshore waters are biologically sound.
- Because turtle utilization of inshore habitat varies tremendously on a regional basis, area-based approaches to sea turtle conservation should be emphasized.
- Regional based assessment is needed for evaluating the need for conservation measures, i.e. larger TEDs, on an area by area basis.
- Perform more naked net studies (non-TED equipped trawls) to include all shrimping areas (inshore, near-shore and offshore) in both the Gulf and South Atlantic.
- Modify existing TEDs in the South Atlantic with escape holes of 35" by 20".
- Examine modification of Gulf of Mexico TEDs with larger escape holes (expand height of hole).
- The Leatherback Contingency Plan is working in the South Atlantic. Maintain it and do not require dramatic increases in escape hole sizes proposed by NMFS.
- Improve announcement of leatherback emergency implementations in the Gulf of Mexico. Industry did not receive adequate notice when implemented several years ago.
- Because of its popularity and efficiency, the Coulan TED should be grandfathered in Louisiana.
- Consideration should be directed toward investigation and re-certification of certain soft TEDs.
- Necropsies should be performed on stranded turtles and a concise breakdown of stranded turtles from shrimping interactions should be reported. Do not lump all data together regarding sea turtle strandings. This serves to indict the shrimping industry.

- Distinguish impacts of other user groups regarding strandings.
- Re-implement the large turtle TED testing protocol.

TED Testing

Much discussion focussed upon the testing procedure and results of the proposed TEDs. Industry participants at the workshop believed that the extent of testing was inadequate. It should be noted that seven different TED testing trips were conducted for the Gulf of Mexico and South Atlantic. Of these seven trips, only three were conducted in the Gulf of Mexico. Industry believed that this represented a **grossly inadequate and statistically insignificant effort** given the potential impact of utilizing such radically different gear. It was noted that previously mandated TEDs were evaluated from hundreds of tows.

The shrimp loss documented from the limited number of tows of the proposed TEDs ranged from 1% - 35%. This fact disconcerted industry participants in the workshop. A major concern was that some of the control TEDs contained no accelerator funnels. It was indicated that previously experienced shrimp losses from the control TEDs (with no accelerator funnels) was 14%. A baseline for shrimp loss of controls (traditional) TEDs was established as 2-3% in the *Federal Register*. Industry strongly believed that this was a mistake and that reconsideration of shrimp loss from comparative tows should be 14% due to lack of accelerator funnels in the control nets. Workshop participants believed that tremendous potential for underestimating shrimp loss from the proposed TEDs exists by establishing an incorrect baseline of shrimp loss anticipated from the control nets.

An industry analysis of the shrimp loss of all obtained data of tests of the proposed TEDs indicated a loss of 10.8% of shrimp for all regions and 16.7% loss for the Gulf of Mexico. This shrimp loss concerned industry very much and was considered unacceptable. It should be noted that these percentages do not take into account additional losses, which would occur, from comparison with control nets not equipped with accelerator funnels.

Further concerns regarding TED testing were highlighted in the workshop. It was indicated that much of the testing in the Gulf of Mexico was conducted during winter months – a period of low shrimp production. Meeting participants indicated that such important tests should have also been conducted during periods of peak shrimp production. Comments were made that the potential for shrimp loss (on a percentage basis) from TEDs can increase during periods of high production. Participants believed that inadequate data regarding shrimp loss exists for the proposed TEDs and efforts should be made to ameliorate this problem.

Other concerns expressed by participants focused upon severe lack of data for inshore gear. Several of the inshore representatives at the meeting indicated concern that the larger, proposed TEDs had not been tested in smaller trawls that are sometimes used in bays. Other related comments were directed to the absence of data relative to single

rigged trawlers that exist in Texas bays. Retrieval techniques and gear for these systems are different and are not represented by data acquired in offshore tests.

Participants also expressed that variation in shrimp loss could result among vessels with different towing speeds. Concern was stated regarding a lack of data from smaller, less powerful vessels. Tests of the proposed TEDs did not reflect these types of nuances that exist in the shrimping industry.

Industry Recommendations Regarding Recently Conducted TED Testing

Other recommendations regarding TED testing will be addressed in this report. The following suggestions reflect input from the workshop that specifically addresses the recent TED tests relative to the 71-inch opening and double-flap TEDs.

- Establish the baseline for shrimp loss to be 14% as it relates to traditional, control TEDs without accelerator funnels.
- Increase the number of tows in the data sets.
- Conduct tests during different periods of annual shrimp production for more realistic performance data.
- If inshore vessels are to be impacted with new regulations, conduct evaluations aboard these vessels.
- Include data from tows that have previously been eliminated from the data sets (further discussion in the economic section of this report).

Economic Data Presented in the Federal Register

During the TED workshop, numerous concerns were expressed about economic data presented in the *Federal Register*. In response to these concerns, Dr. William Hogarth said that economics are not as important in dealing with the Endangered Species Act as in other management concerns falling outside of this legislation. Many of the program participants expressed problems with economic data and statements brought forward in the proposed TED regulations and believed strongly that some of these data were being **misrepresented to the general public**. It was stressed that some of the economic data gave the industry a poor image, especially when it expressed concern about the new TED regulations. The following points were discussed by industry during the workshop.

It was a consensus among participants that the number of new or modified TEDs required for each individual vessel was grossly understated in the proposed rulemaking. Individual fishermen (both bay and offshore) indicated that they must maintain at least 6 – 12 TEDs per vessel. One inshore fisherman stated that he maintained around 20 TEDs because of the various types of shrimp trawls that he fishes. The number of TEDs maintained greatly influences the economic impact of radical changes in TED regulations.

Disagreement was expressed regarding published replacement costs for TEDs in the *Federal Register*. Industry stated that required costs would be much higher than

indicated. A related concern regarding published economic data focused upon longevity of traditional TED grids. Current NMFS information indicates that the average TED grid is usually replaced after one year. This was refuted by industry with statements that TED grids often last for a number of years. The greatest problem and cost in this area relates to repair and reestablishing the angle of the grid in webbing.

Additional comments were made regarding losses from TEDs during certain circumstances encountered by shrimp fishermen. Industry members stated that economic information often does not reflect losses of shrimp experienced from clogging due to sponges, heavy jelly concentrations, free floating vegetation and bryozoans, debris, tangling of TEDs or other phenomena such as bogging nets in mud, etc. Several participants stated that these conditions annually contribute more to loss of shrimp than catch excluded from TEDs during "regular" tows. Concern was expressed that these losses are not shown in economic analysis of TED data. Comments were also made regarding the high cost of repairing and maintaining TEDs (grid angle adjustment, tear repair, etc).

During the workshop, much discourse focused upon current and previously collected TED performance data. It was noted that many tows are discarded from data sets due to problems encountered during tows. Many of the workshop participants believed that this misrepresented TED performance, hence economic data. It was stated that all tows should be included and analyzed in TED tests. Industry stated that the same types of problems are being encountered on a day-to-day basis in the fishery, hence disposal of these tows from the data sets may be biasing economic considerations regarding TEDs.

Members of the shrimping industry from both the Atlantic and Gulf indicated that further economic consideration should directed toward impacts of TEDs on small businesses or fishing operations. It was believed that economic impacts were not being taken into consideration for the small boat operation.

Industry Recommendations Regarding Economic Data

The following suggestions and recommendations were made by industry to address economic concerns:

- Increase the number of tows in TED evaluations and utilize *all* of the tows (include all tows in data sets and analysis).
- Review the impacts of TED regulations on small operators as well as larger business.
- Expand economic analysis to include profit losses incurred from TEDs due to clogging, bogging, damage, tangling, etc. and present this in a more accurate manner to the general public.
- Create a team of industry representatives to advise on economic data published in the *Federal Register* and other published regulations. This would assuage the potential for dissemination of incorrect information.

- Improve economic information regarding fishing businesses.

Try Net Regulations

Considerable discussion was conducted during the workshop regarding new and old try net regulations. Many of the industry members stated that these regulations had been taken too far and that these small, test nets were not posing significant problems to sea turtle mortality. Fishermen from some areas indicated that the use of smaller try nets reduced the ability to monitor concentrations of large, white shrimp. Furthermore, it was stated that larger test nets were required to detect jellyfish concentrations, schools of Atlantic cutlassfish (ribbon fish), etc. Industry stated belief that regulations directed toward try nets were done during a period of "shotgun regulations" for trawl/sea turtle regulations.

It was indicated that the vast majority of fishermen tow try nets for only short periods of time and that the potential for drowning of sea turtles was extremely remote. It was stated that regulations directed toward try nets were not necessary.

Industry Recommendations Regarding Try Nets

- Research needs to be directed toward the determination of mortalities of sea turtles from interaction with try nets.
- Exempt try nets not requiring TEDs to 16 feet.

Conclusion

The Shrimping Industry TED Workshop represents a dedicated effort on the part of the fishing community to address problems associated with sea turtles. It was well attended by industry representatives throughout the Southeast Region. Additionally, members from the National Marine Fisheries Service and state agencies dedicated their time and travel budgets to be present for the fishing industry. This displayed a genuine effort on the part of all to work together in achieving viable solutions and open exchange of information and concerns. It is the hope of industry members that reviewers of this report will seriously consider suggestions and recommendations offered.